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(1 SHEET)

Fig. 1

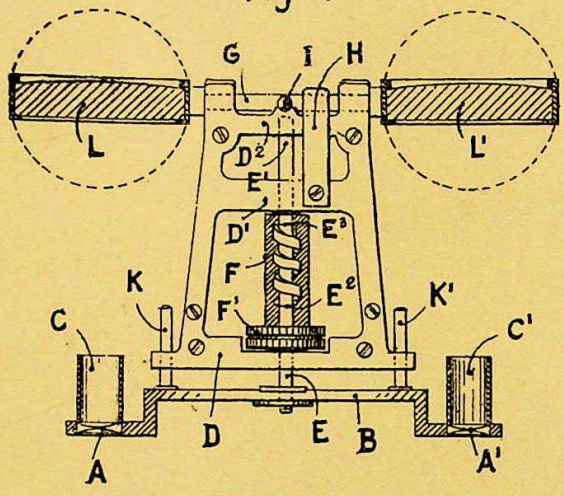


Fig. 2

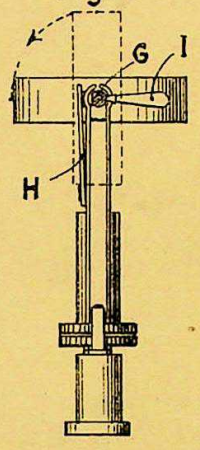


Fig. 3

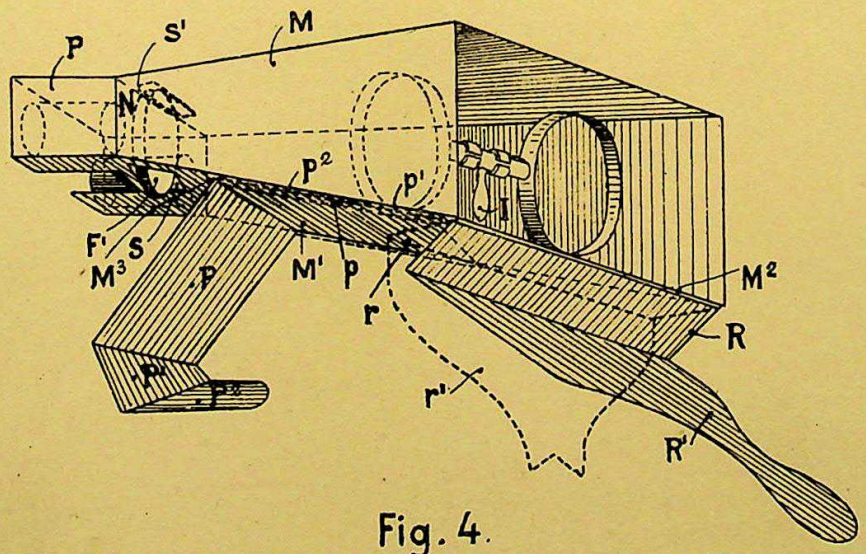
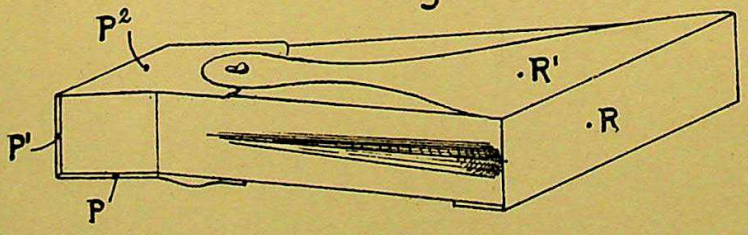


Fig. 4.



[This Drawing is a reproduction of the Original on a reduced scale.]

Malby & Sons, Photo-Litho.

359/408

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Opera Glasses

N° 8645 A.D. 1897

DUPLICATE

Date of Application, 5th Apr., 1897

Complete Specification Left, 4th Jan., 1898—Accepted, 5th Mar., 1898

PROVISIONAL SPECIFICATION.

Improvements in Folding Opera Glasses.

I, Emile Batault, of 6, Rue de l'Universite, Geneva, Switzerland, Doctor of Medicine, do hereby declare the nature of this invention to be as follows:—

My invention relates to an improved system of opera glasses which may be folded into a small compass. It is unliable to injury, compendious and portable.

For this purpose I employ eye glasses of a small diameter and fixed on a bar at the normal distance of the eyes. In the middle of this bar and perpendicular to it, that is parallel to the optic axes of the glasses and in their plane, is provided a screw not unlike those used for ordinary opera glasses. The screwing part is only cut out in the middle portion of its length, both ends being smooth and able to slide in a flat frame which carries, at its front part, the mounts of the object glasses. These are mounted in separate lens-frames connected together by a rod which joins them symmetrically and in the same plane, their centers being at the same distance as those of the eye lenses. This connecting rod is pivotably mounted on the frame, at its front part, parallel to it and so, that it can be turned round 90° in such a way that the object lenses may be placed parallel or perpendicular to the frame. The bar carrying the ocular lenses is connected with the frame by the screw and in order to prevent its rotation and to keep it always parallel to the rod connecting the object glasses, it is provided with two pins which slide in the frame. A screw-nut put on the screw permits the focussing adjustment.

In order that my invention may be better understood I will now proceed to describe the same in relation to the drawings hereunto annexed, showing one of the manners of carrying it out, reference being had to the letters and figures marked thereon.

Fig. I shows a plan view of the instrument, the dotted lines of the object glasses representing the folded position.

Fig. II is a side view of the position ready for use, the dotted lines being the folded or turned down position.

Fig. III shows the opera glass ready for use enclosed in its folding casing.

Fig. IV shows the opera glass folded down and shut in its case to be carried about.

The ocular glasses A A^1 are fixed on the bar B by two small tubes C C^1 screwed in it and acting as diaphragms. This bar is provided in its center with a perpendicular rod E E^1 smooth and cylindrical from E to E^2 and from E^1 to E^3 and cut out in screw from E^2 to E^3. This rod is fitted into a flat frame D D^1 D^2 made in this case of three sheets of metal screwed together, the upper and lower one thinner and the middle one about as thick as the diameter of the smooth portion

of E E^1. This intermediate plate is cut in two right and left halves leaving between them a free space or opening in which the rod E E^1 slides. The screwed portion E^2 E^3 is provided with a screw-nut F (having a milled head F^1) which has a sufficient length to fit exactly between the parts D and D^1 of the frame. The rotation of this screw-nut does not change its position on the frame but it will cause, according to the direction in which it is turned a to or fro motion of the bar B relatively to the frame, because the said bar B fixed on the extremity of E E^1 does not permit its rotation as it is kept parallel to the frame by two pins K K^1 sliding in two corresponding lateral grooves of the frame. We obtain in that way the focussing adjustment.

At the front part of the frame the two external metallic plates of the frame are bent or curved inwards so that they form an elastic ring by which the axis G, carrying at each end the two object lens-frames, symmetrically and in the same plane, is pivotably connected with the frame. This axis G is as aforesaid symmetrical to the object-lenses L L^1 and may be turned 90° so that the glasses will lie flat with the frame or be perpendicular to it. In order to secure the position exactly wanted the axis is provided with two flat faces made at right angles upon which a spring H is pressing; for the same purpose a pin or small handle I is fixed on the axis and limits its motion at 90° by coming into contact with two suitable stops. Said handle is long enough to be easily caught with the finger so as to turn up and down the object glasses without touching them.

The instrument might be used as now described but is much improved by a very simple casing which covers the space between the ocular and object glasses when ready for use, and which folded down, becomes a very handy and convenient thin case completely protecting the whole thing (Fig. IV).

This casing consists of two hinged plates M M^1 fixed on the part D of the frame by a hinged binding N, a leather strip for instance. These plates are loosely connected on each side by a folding material so that they can be collapsed in the way of bellows. Upon N or D is fixed a slight case P, of metal or celluloid or any such material which surrounds the ocular glasses the tubes C C^1 and the bar B, but being, if necessary, partly hollowed out at the place corresponding to the nose.

On the plate M^1, in M^3 is provided a kind of flap divided in such rigid sections P P^1 P^2 that can be respectively folded as shewn in Fig. III and IV. In Fig. III P P^1 P^2 shows the flap hanging loosely. When the opera glass is folded in its case, P P^1 P^2 come in the position shewn in Fig. IV. On the contrary, when the opera glass is opened and ready for use, the parts P P^1 P^2 may be brought back underneath the plate M^1 in the position shewn as p p^1 p^2 (Fig. III) and retained upon M^1 by the anterior portion R which comes in the position l (Fig. III) pressing p and p^1 against M^1.

On the front edge M^2 of the plate M^1 is provided a plate hinged or articulated on M^1 and bent at right angles R R^1. The part R is about of the width of P^1, the part R^1 is much longer and cut out in the shape of a handle easy to be held in the hand as shewn on Fig. III and IV. When the instrument is opened, R R^1 is folded back, R bearing against M^1 with the intermediate parts p p^1 between it and M^1. In this position R^1 projects down in a position i^1 nearly perpendicular to the frame of the instrument and may be used as a handle to hold it before the eyes. If necessary a small catch may be provided between R and p to insure the opened position.

The part R^1 instead of being rigid with R and at right angles upon it might be also hinged on R^1 in that case R^1 could be completely folded back upon p and the hand in taking hold of the instrument would keep R R^1 p p^1 and p^2 applied against M^1. Two openings S S^1 are made in M M^1 corresponding to the milled head F^1 to enable the focussing adjustment.

Dated this 3rd day of April 1897.

EMILE BATAULT.

COMPLETE SPECIFICATION.

Improvements in Folding Opera Glasses.

I, EMILE BATAULT, of 6, Rue de l'Universite, Geneva, Switzerland, Doctor of Medicine, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

My invention relates to an improved system of opera glasses which may be folded into a small compass. It is unliable to injury compendious and portable.

For this purpose I employ eye glasses of a small diameter and fixed on a bar at the normal distance of the eyes. In the middle of this bar and perpendicular to it, that is parallel to the optic axes of the glasses and in their plane, is provided a screw not unlike those used for ordinary opera glasses. The screwing part is only cut out in the middle portion of its length both ends being smooth and able to slide in a flat frame which carries at its front part the mounts of the object glasses. These are mounted in separate lens-frames connected together by a rod which joins them symmetrically and in the same plane, their centers being at the same distance as those of the eye lenses. This connecting rod is pivotably mounted on the frame at its front part, parallel to it and so that it can be turned round 90°, in such a way that the object lenses may be placed parallel or perpendicular to the frame. The bar carrying the ocular lenses is connected with the frame by the screw, and in order to prevent its rotation and to keep it always parallel to the rod connecting the object glasses, it is provided with two pins which slide in the frame. A screw-nut put on the screw permits the focussing adjustment.

In order that my invention may be better understood I will now proceed to describe the same in relation to the drawings filed with my Provisional Specification, showing one of the manners of carrying it out, reference being had to the letters and figures marked thereon.

Fig. 1 shows a plan view of the instrument the dotted lines of the object glasses representing the folded position.

Fig. II is a side view of the position ready for use, the dotted lines being the folded or turned down position.

Fig. III shows the opera glass ready for use enclosed in its folding casing.

Fig. IV shows the opera glass folded down and shut in its case to be carried about.

The ocular glasses A A^1 are fixed on the bar B by two small tubes C C^1 screwed in it and acting as diaphragms. This bar is provided in its center with a perpendicular rod E E^1 smooth and cylindrical from E to E^2 and from E^1 to E^3, and cut out in screw from E^2 to E^3. This rod is fitted into a flat frame D D^1 D^2 made in this case of three sheets of metal screwed together, the upper and lower one thinner and the middle one about as thick as the diameter of the smooth portion of E E^1. This intermediate plate is cut in two right and left halves leaving between them a free space or opening in which the rod E E^1 slides. The screwed portion E^2 E^3 is provided with a screw-nut F, having a milled head F^1, which has a sufficient length to fit exactly between the parts D and D^1 of the frame. The rotation of this screw-nut does not change its position on the frame but it will cause, according to the direction in which it is turned, a to or fro motion of the bar B relatively to the frame, because the said bar B fixed on the extremity of E E^1, does not permit its rotation, as it is kept parallel to the frame by two pins K K^1 sliding in two corresponding lateral grooves of the frame. We obtain in that way the focussing adjustment.

At the front part of the frame the two external metallic plates of the frame are bent or curved inwards, so that they form an elastic ring by which the axis G, carrying at each end the two object lens-frames, symmetrically and in the same plane is pivotably connected with the frame. This axis G is as aforesaid symmetrical to the object-lenses L L^1 and may be turned 90°, so that the glasses will lie flat with the frame or be perpendicular to it.

In order to secure the position exactly wanted, the axis is provided with two flat faces made at right angles upon which a spring H is pressing; for the same purpose a pin or small handle I is fixed on the axis and limits its motion at 90°, by coming into contact with two suitable stops. Said handle is long enough to be easily caught with the finger so as to turn up and down the object glasses without touching them.

The instrument might be used as now described, but it is much improved by a very simple casing which covers the space between the ocular and object glasses, when ready for use, and which folded down, becomes a very handy and convenient thin case completely protecting the whole thing. (Fig. IV).

This casing consists of two hinged plates M M^1 fixed on the part D of the frame by a hinged binding N, a leather strip for instance. These plates are loosely connected on each side by a folding material, so that they may be collapsed in the way of bellows. Upon N or D is fixed a slight case P^x, of metal or celluloid or any such material, which surrounds the ocular glasses the tubes C C^1 and the bar B, but being if necessary, partly hollowed out at the place corresponding to the nose.

On the plate M^1, in M^3, is provided a kind of flap divided in such rigid sections P P^1 P^2 that can be respectively folded as shewn in Fig. III and IV.

In Fig. III P P^1 P^2 shows the flap hanging loosely. When the opera glass is folded in its case, P P^1 P^2 come in the position shewn in Fig. IV.

On the contrary when the opera glass is opened and ready for use, the parts P P^1 P^2 may be brought back underneath the plate M^1, in the position shewn as p, p^1 p^2, (Fig. III) and retained upon M^1 by the anterior portion R, which comes in the position i (Fig. III), pressing p and p^1 against M^1.

On the front edge M^2 of the plate M^1 is provided a plate hinged or articulated on M^1 and bent at right angles R R^1. The part R is about of the width of P^1, the part R^1 is much longer and cut out in the shape of a handle easy to be held in the hand, as shewn on Fig. III and IV.

When the instrument is opened, R R^1 is folded back, R bearing against M^1 with the intermediate parts p p^1 between it and M^1. In this position R^1 projects down in a position nearly perpendicular to the frame of the instrument and may be used as handle to hold it before the eyes. If necessary a small catch may be provided between R and p to insure the opened position.

The part R^1 instead of being rigid with R and at right angles upon it, might be also hinged on R^1, in that case R^1 could be completely folded back upon p and the hand in taking hold of the instrument would keep R R^1 p p^1 and p^2 applied against M^1. Two openings S S^1 are made in M M^1 corresponding to the milled head F^1 to enable the focussing adjustment.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1. A system of folding opera glasses capable of being reduced into a small compass. It is characterized by the combination, firstly: of two eye-glasses, preferably of a small diameter, carried on a bar; secondly: of two object-glasses pivotably connected with a frame so that they may lie flat with the frame or be turned up perpendicular to it and thirdly: of a screw with its screw-nut connecting the bar with the frame and permitting the focussing adjustment, as described.

2. A folding casing comprising in combination two hinged plates M M^1 loosely connected by a folding material, a slight case P^x, a folding flap P P^1 P^2, a hinged

plate bent at right angles R R^1 which may be used as a handle when the casing is opened as described and shewn.

3. A folding opera glass of the kind claimed under No. 1 combined with the casing claimed above substantially as described and for the purpose set forth.

Dated this 1st day of January 1898.

EMILE BATAULT.

Redhill: Printed for Her Majesty's Stationery Office, by Malcomson & Co., Ltd.—1898